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EDITORIAL

A peer-reviewed open-access journal
MycoKeys
Launched to accelerate biodiversity research

MycoKeys, or why we need a new journal in mycology?

Thorsten Lumbsch[1], Andrew N. Miller[2], Dominik Begerow[3], Lyubomir Penev[4]

1 *The Field Museum, Chicago, USA* **2** *Illinois Natural History Survey, Champaign, USA* **3** *Ruhr-University, Bochum, Germany* **4** *Pensoft Publishers, Sofia, Bulgaria*

Corresponding author: *Thorsten Lumbsch* (tlumbsch@fieldmuseum.org)

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The launch of MycoKeys coincided with several revolutionary changes to the International Code of Botanical Nomenclature (ICBN) (Knapp et al. 2011 and Hawksworth 2011, in this volume, Miller et al. 2011) that occurred during the Nomenclature Section of the XVIII International Botanical Congress (IBC2011) in Melbourne, Australia. The path to the present launch, however was paved years ago by the lively discussions on electronic publication and dissemination of biodiversity information in the Internet era (e.g., Knapp and Wright 2010, Penev et al. 2010a), as well as by the successful start of its sister journals, PhytoKeys and ZooKeys.

In short, there are several challenges in the publishing practices in mycology that both mycologists and publishers now face: (1) Allowance of electronic publication of nomenclatural acts and its successful application in practice; (2) Mandatory electronic registration for nomenclatural acts for fungi in electronic registers such as MycoBank (effective on and after 1st of January 2013); (3) Removal of Article 59 of the Vienna Code that allowed existence of more than one valid name for the different forms (asexual and sexual) of a fungus species; the elimination of Article 59 is often interpreted as the "one fungus - one name" rule; (4) Open access publishing of information and data as already established best practice in academic communication (Suber 2010); (5) Forthcoming Web 2.0 and Linked Open data (LOD) era allows permanent cross-linking and data exchange between the leading biodiversity data holders, such as the Global Biodiversity Information Facility (GBIF), Encyclopedia of Life (EOL), MycoBank, Index Fungorum, the Global Information System for Lichenized and Non-Lichenized Ascomycetes (LIAS), Genbank, Plazi the Wiki environment (Species-Id, Wikispecies) and many others (Penev et al. 2010a; see also Fig. 1); (6) Semantic

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markup of published texts permit unprecedented increase of visibility, citations and re-use of the biodiversity information (Penev et al. 2010b).

There are also other exciting and novel advances in biodiversity science that change the field with a speed never seen before. Electronic media helps not only in fast and efficient publication and communication between researchers but becomes themselves tools and platforms for indexing, aggregating and retrieval of information, providing unique opportunities to accelerate biodiversity research and understanding. The research process itself is accelerated by methods to increase the speed and efficiency of sampling and discovery of new taxa, as well as with their identification through an array of new techniques such as DNA sequencing.

MycoKeys is launched to respond to the challenges described above through a transformative publishing model with innovative approaches to publication and dissemination. The journal will publish papers across all disciplines dealing with taxonomy, systematics, evolution, phylogeny, biogeography, taxon-based ecology, and conservation of the monophyletic kingdom Fungi. *MycoKeys* will publish taxonomic or ecological data on any taxon of any geological age from any part of the world with no limit to manuscript size. Special attention will be paid to works offering integrative and inter-disciplinary approaches that promote innovative ways of presenting the research information.

Mycokeys will consider publishing works on the following topics:

- Descriptions of new taxa, if they are accompanied with proper diagnoses and/or keys to distinguish them from close relatives or similar taxa, and if DNA sequence data are deposited in Genbank prior to publication. All new taxa need to be registered at Mycobank and Mycobank numbers indicated in the manuscript. New taxa should ideally be described in connection with a phylogenetic analysis or evidence that the barcode gene (ITS) is unique for the new taxon.
- Taxonomic revisions of extant (or "recent") and fossil fungal groups
- Checklists and catalogues
- Phylogenetic and evolutionary analyses, if alignments are deposited in TreeBase (with accession number listed in the text).
- Papers in descriptive and/or historical biogeography
- Methodology papers, including description of new software, if released as an open source license and released as supplementary material to the article.
- Data mining and literature surveys
- Monographs, conspecti, atlases
- Primer notes
- Letters to the Editor and "Points of View" commentaries
- Collections of papers, Festschrift volumes, conference proceedings
- Data papers (manuscripts describing large datasets datesets published through the GBIF, Barcode of Life, or other international data repositories)

Extensive overviews on a taxon in a country or larger region are welcome. Short mycological contributions may be considered if they are based on significant or unex-

Figure 1. Pensoft Taxon Profile (PTP) for the genus *Aspergillus* (Eurotiomycetes) obtained dynamically from external web resources. The profile is generated by clicking on any taxon name published in a MycoKeys paper, in this case in the paper by Raja et al. (2011). The links on the left bar, if in bold font, lead to various biodiversity platforms where information on this taxon is available; links in normal font indicate that there is no information on the taxon in the particular platform. The PTP tool is available also as standalone application at http://www.ptp.pensoft.eu

pected discoveries. Regular contributions may eventually be published in special issues devoted to a region/country.

In addition *MycoKeys* will respond to the present-day cultural and technological shift in scholarly publishing and communication through:

- Mandatory open access to all journal articles, providing an unlimited and barrier-free distribution of published content
- Pre-publication recording of all new names in Mycobank as well as rapid post-publication registration in Index Fungorum and LIAS
- Inclusion of the Mycobank registration numbers in the original descriptions (protologues)
- All new taxa and other taxon descriptions and associated images are provided to the Encylopedia of Life on the day of publication
- All taxon treatments are provided to the Plazi treatment repository
- All new taxa are exported to the Wiki environment (Species-Id) on the day of publication; the link to the Wiki version of a treatment is included in the protologue and citation of the original description is always explicitly shown in the Wiki version
- An established infrastructure for data publishing in cooperation with the GBIF, the Consortium for Barcode of Life, and Dryad Data Repository
- Data matrices and primary data files for interactive keys (e.g., Lucid, Intkey, MX, and others) can be published as supplementary files to facilitate use and reuse by future workers
- Immediate alert service on new publications through email, RSS, Twitter, Facebook, Mendeley, and other networks
- Immediate distribution and dissemination of your publication to scientific databases, indices and search engines (ISI Web of Knowledge, Google Scholar, CABI Abstracts, DOAJ, and others)
- Archiving of your publication, electronically and in print, in trusted (e-) archives and libraries, in the first case PubMedCentral
- Continuous development and implementation of cutting-edge publishing technologies: XML-based editorial work flow and mark up process, data publication and various semantic enhancements to published texts to ensure a pleasant and efficient reading process as well as a wide dissemination of separate parts of a logically 'atomised' article's content
- Automated cross-linking of any taxon mentioned in the MycoKeys papers through the Pensoft Taxon Profile (Fig. 1) with major indexing and aggregation platforms such as the GBIF, EOL, MycoBank, Index Fungorum, the International Plant Name Index (IPNI), ZooBank, the National Center for Biodiversity Information (NCBI), Genbank, Barcode of Life, the Biodiversity Heritage Library (BHL), PubMed, PubMedCentral, and others
- Publication of identical content in four different formats to serve different target user groups: (1) full-colour, high-resolution print version; (2) PDF for reference to the printed version and easy archiving; (3) HTML for easy

reading, browsing and applying semantic enhancements to the text; and (4) XML to provide a machine-readable file for archiving and data mining
- Quick turnaround time; papers published within one to three weeks time after acceptance
- No restrictions and no charges for colour either in the online or in the printed version

On behalf of its authors, *MycoKeys* will place special effort on increasing public awareness of published scientific discoveries through an established system of press releases to science news distributors, mass media, blogs, social networks and others.

A new journal can only succeed when it is appreciated by an enthusiastic community of authors, reviewers, editors and readers. We are confident that the new opportunities offered by *MycoKeys* will be embraced and warmly welcomed by all mycologosts to the great benefit of scientists, research funders and society in general.

Finally, we would like to thank all of the authors, editors and readers of MycoKeys for their support of the journal, as well as the translators of the paper of Knapp et al. (2011): Li-Bing Zhang (Chinese), Jefferson Prado, Regina Y. Hirai, and Cíntia Kameyama (Portuguese), Irina Belyaeva and Maria Vorontsova (Russian), and Carmen Ulloa Ulloa, Lourdes Rico Arce, and Renée H. Fortunato (Spanish). Special thanks are due to all teams that made possible the establishment of the innovative workflow of Pensoft's journals: Plazi, the Global Biodiversity Information Facility (GBIF), the Encyclopedia of Life (EOL), the Biodiversity Heritage Library (BHL), the National Library of Medicine of the U.S. (NLM), and the ViBRANT EU FP7 project.

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